

What is claimed is:

1. A method for processing a substrate comprising the steps of:

5 (a) forming at least a predetermined pattern on the substrate;

(b) performing a treatment using an aqueous solution on the substrate after the step (a); and

(c) radiating a beam with a wavelength shorter than that of a visible ray on the substrate.

10 2. The method as set forth in claim 1,

wherein the step (b) is a cleaning step cleaning the substrate with a cleaning solution.

3. The method as set forth in claim 1,

15 wherein the step (c) is performed after the step (b).

4. The method as set forth in claim 3,

wherein the step (c) is performed in a state that the aqueous solution remains between the patterns.

5. The method as set forth in claim 3,

20 wherein the step (c) is a radiating step radiating the substrate with a beam so that the beam removes the aqueous solution remained in the pattern at a predetermined depth thereof.

25 6. The method as set forth in claim 3, further comprising the step of:

adjusting a surface tension on the pattern before the step (c).

7. The method as set forth in claim 6,
wherein said adjusting step has a step to supply
a surface-active agent on the pattern.

8. The method as set forth in claim 1,
5 wherein the beam is an electron beam.

9. The method as set forth in claim 1,
wherein the beam is an ultraviolet ray.

10. A method for processing a substrate comprising the
steps of:

10 (a) developing a photo sensitive material on the
substrate with a developing solution;

(b) cleaning the developing solution with a
cleaning solution; and

(c) radiating a beam with a wavelength shorter
15 than that of a visible ray on the photo sensitive
material before the photo sensitive material and the
cleaning solution are dried out.

11. The method as set forth in claim 10,

wherein the step (a) and the step (b) are
20 performed in a first chamber, and the step (c) is
performed in a second chamber, different from the first
chamber.

12. The method as set forth in claim 11,

wherein the step (c) has a step of reducing a
25 pressure in the second chamber.

13. The method as set forth in claim 11,

wherein the step (c) has a step of replacing an

air inside the second chamber with an inert gas.

14. The method as set forth in claim 13,
wherein the inert gas includes a helium gas.

15. The method as set forth in claim 10,
5 wherein the beam is an electron beam.

16. The method as set forth in claim 10,
wherein the beam is an ultraviolet ray.

17. The method as set forth in claim 10, further
comprising the step of:

10 supplying a surface-active agent on the substrate
after the cleaning solution is supplied.

18. The method as set forth in claim 10,
wherein the step (c) is a radiating step
radiating a beam with a wavelength shorter than that of
15 a visible ray on the photo sensitive material before
the photo sensitive material and the cleaning solution
are dried out.

19. The method as set forth in claim 10,
wherein, the step (c) is performed in a reduced
20 atmospheric pressure and/or in a low oxygen
concentration compared with a helium gas or a nitrogen
gas and/or oxygen concentration.

20. A method for processing a substrate comprising the
steps of:

25 applying a photo sensitive material on the
substrate;

radiating a beam with a wavelength shorter than

that of a visible ray on the photo sensitive material;

developing a photo sensitive material with a developing solution; and

5 cleaning the developing solution with a cleaning solution.

21. The method as set forth in claim 20,

wherein the radiating step sets a depth of the radiation on the photo sensitive material.

10 22. A method for processing a substrate comprising the steps of:

heating the substrate at a first temperature;

radiating a beam with a wavelength shorter than that of a wavelength of a visible ray on the photo sensitive material after the heating; and

15 heating the radiated substrate at a second temperature higher than the first temperature.

23. A method for processing a substrate comprising the steps of:

20 (a) forming at least a predetermined pattern on the substrate;

(b) performing a treatment using an aqueous solution on the substrate after the step (a); and

25 (c) splashing the aqueous solution between the patterns after the step (b) with a predetermined electromagnetic energy.

24. A substrate processing apparatus, comprising:

a development and cleaning portion developing a

photo sensitive material on the substrate with a developing solution and cleaning the developing solution with a cleaning solution; and

5 a radiating portion radiating a beam with a wavelength shorter than that of a visible ray on the photo sensitive material before the photo sensitive material and the cleaning solution are dried out.

25. The apparatus as set forth in claim 24,
wherein the beam is an electron beam.

10 26. The apparatus as set forth in claim 24,
wherein the beam is an ultraviolet ray.

27. The apparatus as set forth in claim 24,
wherein the radiating portion is capable of forming a hermetic zone capable of reducing a pressure.

15 28. The apparatus as set forth in claim 27, further comprising:

a gas supplying mechanism supplying an inert gas to the hermetic zone.

20 29. The apparatus as set forth in claim 24, further comprising:

a supplying mechanism supplying a surface-active agent on the substrate.